

HPNS – EPA Evaluation of the Protectiveness of the Building Radiological Remediation Goals

Nature of the Dispute

- In September 2019, as part of a Five-Year Review, a Navy contractor completed an evaluation of the existing remediation goals for radiologically contaminated buildings (“building RGs”). Based on the evaluation, the Navy concluded that the building RGs for 11 radionuclides of concern are protective of future indoor workers and residents.
- We do not believe that the Navy’s September 2019 evaluation, or subsequent Navy submittals, demonstrate that the building RGs would be protective of future building occupants.
- To comply with site Records of Decision, any residual radiological contamination exceeding RGs must be remediated before the buildings can be cleared for reuse.

Work Affected by The Dispute

- The Navy has identified numerous buildings at the site as radiologically impacted and in need of retesting because past data are considered unreliable. A building is described as “impacted” if residual radioactive contamination could be present.
- For Parcel G, EPA is withholding approval of the portion of the workplan which describes retesting of buildings. The testing approach must be able to detect contamination at levels below the RGs. If the current RGs are determined to be unprotective and need to be modified, the testing approach described in the retesting workplans may need to change. Similarly, we do not, at this time, support building retesting at five other parcels where retesting is planned.
- The Navy has stated that it has contracts in place to begin building retesting at Parcel G. A February 2021 Navy schedule suggests that the Parcel G building retesting would need to be complete by mid-2022 to avoid delays in the completion of the remedial action. (A recent Navy schedule shows the fieldwork to support radiological retesting of soil on Parcel G continuing through May 2022, although recent delays are likely to extend the duration of the soil retesting.) The Navy has not finalized workplans for radiological retesting at the other five parcels.

EPA’s Position with Respect to The Dispute, and Technical and Factual Information EPA Is Relying Upon to Support Its Position

- The Navy has relied on the RESRAD BUILD (RRB) calculator developed at the Argonne National Laboratory to support its position that the building RGs remain protective. We believe that the Navy’s RRB calculator simulations, described in the September 2019 evaluation, may underestimate health risks associated with the building RGs because they do not adequately reflect current or expected future site conditions.

Specifically, four concerns underlie our position that the Navy’s RRB health risk estimates may underestimate risk and that the current RGs may not be protective of future building occupants. Items #1 and #2 address any remaining removable radiological contamination in site buildings (as measured by

“swipe” samples); items #3 and #4 address external radiation which future building occupants could be exposed to.

1. The Navy has not justified its decision to simulate exposure to the removable fraction of any residual contamination in site buildings using the “indirect” pathway in RRB rather than the “direct” exposure pathway. (RRB provides two options for estimating risks via the ingestion exposure pathway.) This decision appears to reduce the estimated health risks associated with the building RGs by an order of magnitude.
2. The Navy has not justified its decision to simulate exposure using an ingestion rate much lower than the default EPA values used in the BPRG calculator and included in EPA’s agencywide Exposure Factors Handbook. This decision appears to reduce the estimated health risks associated with the building RGs by an order of magnitude.
3. The Navy has not adequately explained the methodology used in RRB to estimate health risk from external radiation emanating from a contaminated building surface. The June 2003 RRB User’s Manual provides limited information; our request to Argonne lab also provided only limited information. We commented on this concern in an August 2020 letter.
4. The Navy has not justified its decision to assume that any residual radiological contamination is present only on the floor of the radiologically impacted buildings. We suggested in our August 2020 letter that the Navy modify this assumption and assume contamination on the floor and lower six feet of the interior walls to better match the retesting plans (which designate these areas as having the highest potential for contamination).

- EPA’s preliminary calculations using its Building Preliminary Remediation Goal (BPRG) calculator indicate that health risks associated with the building RGs may be significantly higher than estimated by the Navy, outside of the acceptable risk range, and therefore not protective of human health.

- The Navy has asserted that the preliminary BPRGs shared by EPA are below the background range of common building materials, cannot be detected with state-of-the-art instrumentation, and are not a valid representation of risk to future building users. We do not believe that the Navy has adequately supported these claims.

Legal Information EPA Is Relying Upon to Support Its Position

-CERCLA requires remedies to be protective of human health, defined in the NCP as falling within the risk range.

- A primary purpose of a five-year-review is determining whether a remedy remains protective of human health, in both the short and long term.

- EPA requested that the Navy evaluate its clean-up goals using the PRG and BPRG calculators in 2017 as part of the upcoming Five Year Review. This request was based in part on updated radiological risk assessment guidance that was issued by EPA in 2014, which establishes a preference for using EPA created risk assessment tools for radiological clean-ups (i.e., the PRG and BPRG calculators). The guidance allows for the use of alternative risk assessment tools, but only after consultation with EPA HQ.

- Under section 12.8 of the HPNS Federal Facilities Agreement (FFA), this dispute shall not affect the Navy's responsibility for timely performance of remediation work or the radiological soil retesting. The FFA states: work "...not affected by the dispute shall continue and be completed in accordance with the applicable timetable and deadline or schedule." In EPA's August 18, 2020 letter to the Navy, EPA provided approval of Navy plans to proceed with the soil radiological retesting at Parcel G and noted it is working with the Navy on approving the portion of the workplan which provides plans for retesting of potentially radiologically impacted buildings. Therefore, it's the Navy's responsibility to continue with all other work under the FFA schedule.